

relaydroid-3R3D-S

Datasheet

Please note: Connecting this device to a LAN network needs knowledge about Ethernet network configurations. If you are unfamiliar with setting up Ethernet networks please consult a network specialist!

DANGER! If you want to switch high voltages with your relays (like 230V AC) only a qualified electrician should connect the wires to avoid the risk of electric shock!



This datasheet contains only the highlights of the features and parameters.

For more info download the full relaydroid user manual from <https://relaydroid.com>

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1. Parameters

- Dimensions (W,H,D):
 - **17.5mm narrow case:** 17.5x90x56.4 mm
- Holding: DIN-rail
- Recommended input voltage: 12V_{DC} - 24V_{DC}
- Operational input voltage ranges: min. 8V_{DC}, (typ. 12V_{DC}), max. 28V_{DC}
- Input current requirements:
 - recommended min. 500mA
- Power consumption: max. 1W (@12V_{DC}) with all outputs off
- Open collector outputs can drain max. 500mA to GND
- Ethernet: 10/100/1000 Mbit compatible, RJ-45 port, 10Mbit
- Implemented network protocols: TCP/IP, UDP, HTTP, NTP, NetBios, DHCP, DNS, ICMP (PING), SMTP (email)
- 4 LED: 1 power status + 2 Ethernet status + 1 OC1 output status LED
- 1 button, used to: switch outputs on/off, reboot, reset to factory settings
- Temperature rating min/max: -25/+60 Celsius

2. Layout and dimensions

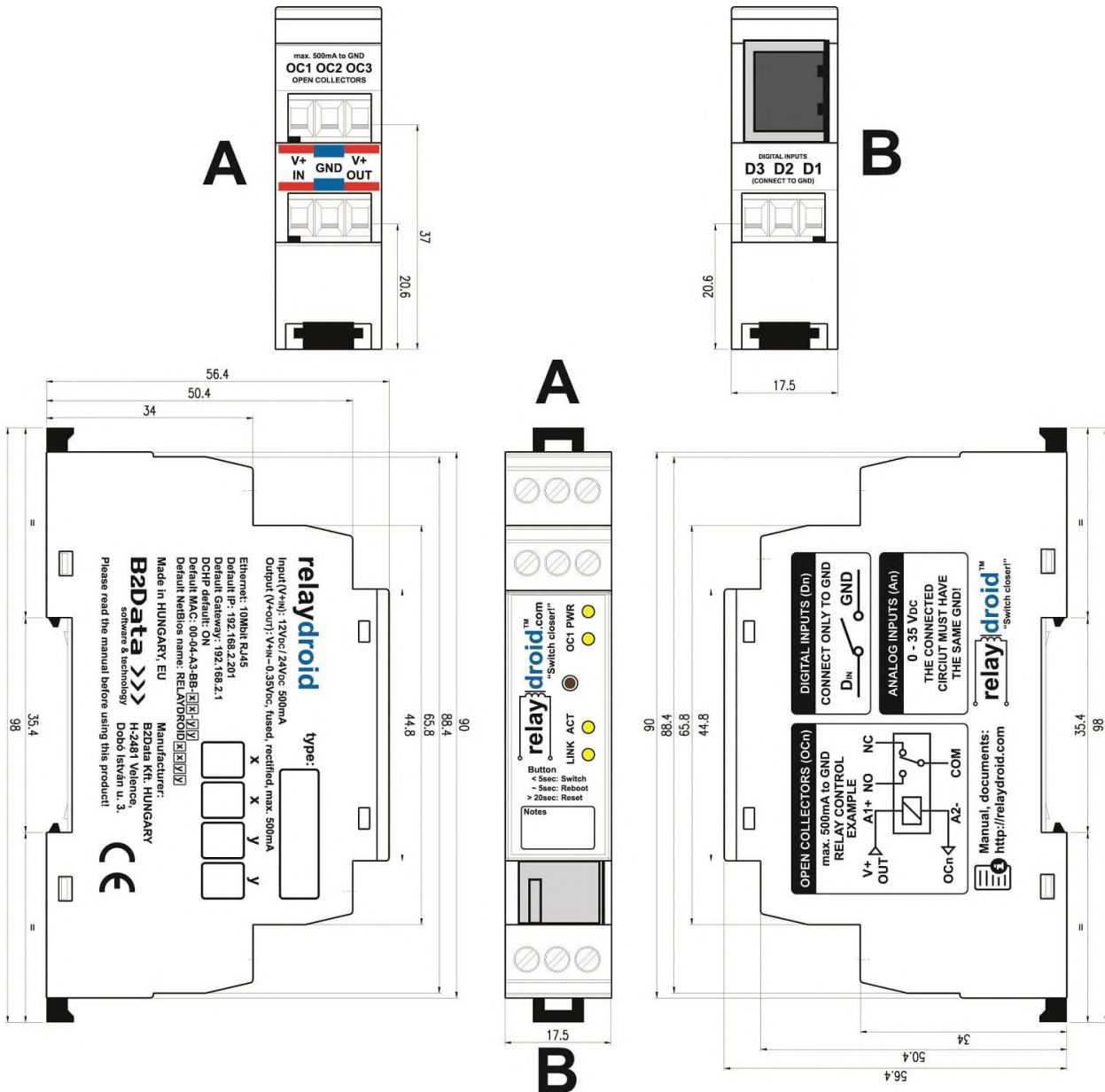


Figure 2-1: device dimensions (17.5mm wide)

3. External connections, buttons, leds

NOTE: The layout, location and order of the connection PINs and LEDs can be rearranged without prior notice. Always refer to the labels on your device to determine a PIN or LED function!

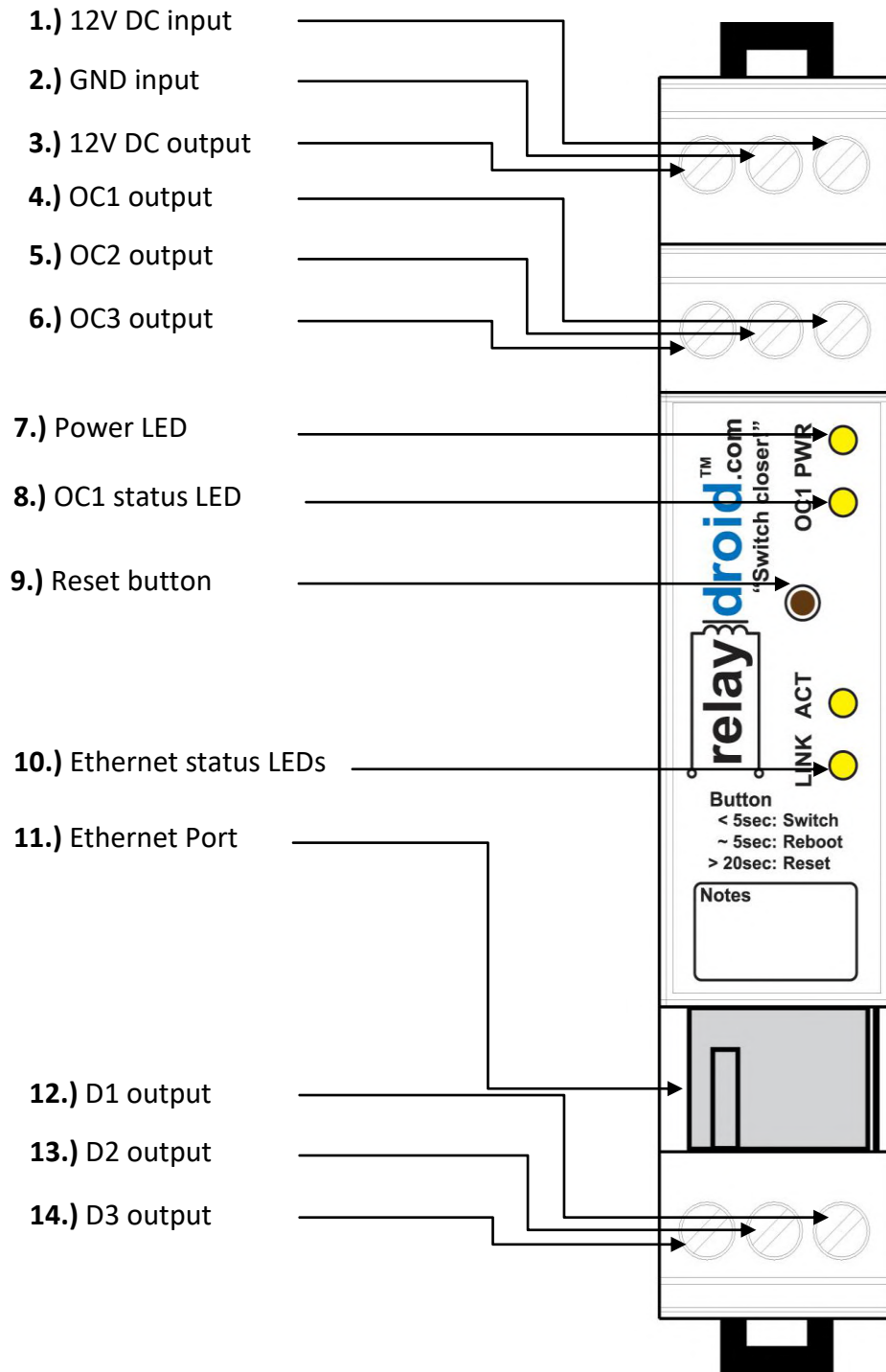


Figure 3-1: relaydroid-3R3D-S (SIDE-LAN) device layout

4. Inner circuits

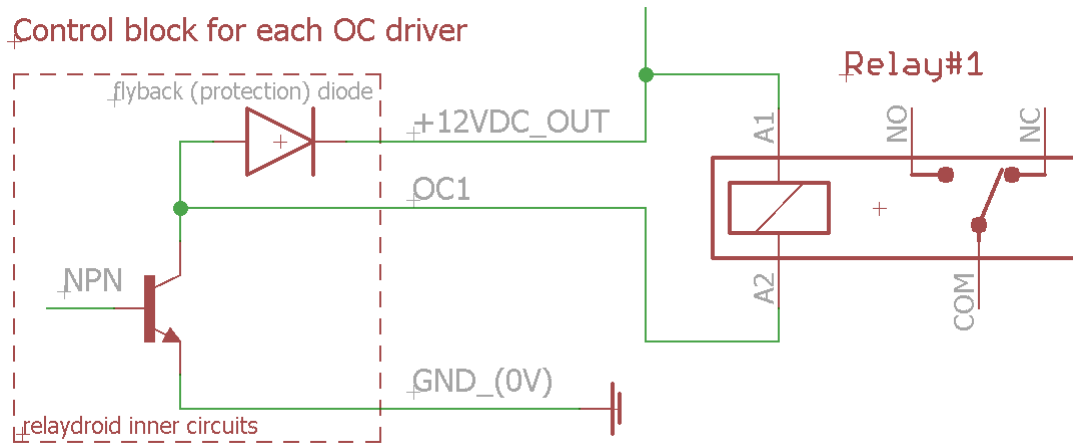


Figure 4-1: control block for each OC driver

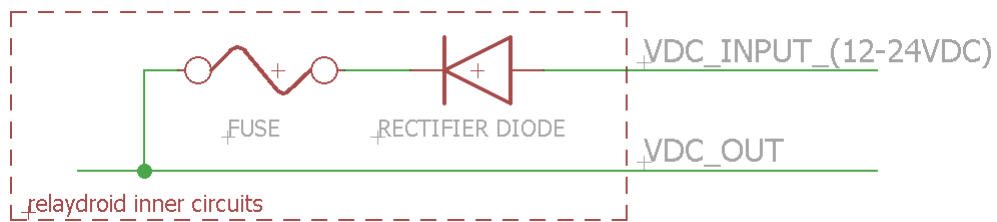


Figure 4-2: Vdc input and output

5. Connecting the digital inputs (Dx)

Digital inputs can only be used to detect an open or closed circuit (e.g. a switch or a door sensor).

The digital inputs have a weak pull-up of about 2.5Vdc and they can only be connected to GND or left open. They have 2 states: ON and OFF. To detect an open or closed circuit, connect one end of the circuit to the D1-9 input, and the other end of the circuit to GND (2.). If the circuit is closed (the input is connected directly to GND) the input state is ON. If the circuit is not closed (e.g. opened with a switch or a reed relay) the input state is OFF.

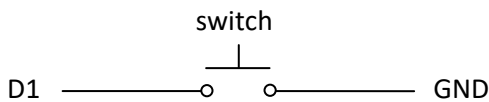


Figure 5-1: connecting **D1** to detect the state of a switch (open/closed)

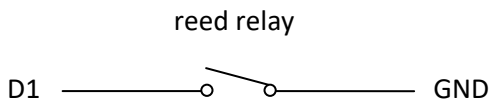


Figure 5-2: connecting **D1** to detect a reed relay state (open/closed)

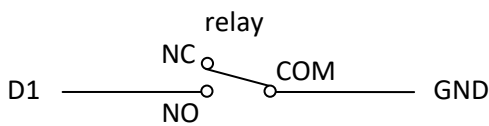


Figure 5-3: connecting **D1** to detect a relay state (NO/NC, default OFF)

BE ADVISED! Never EVER connect live wires with any voltage directly into the digital inputs. The digital inputs can only be connected to GND (0Vdc) directly. Any other connections over 2.5Vdc may cause the immediate destruction of the device.

6. Programmer API examples

relaydroidTM devices can be controlled externally from a custom program via HTTP or TCP commands.

The API is disabled by default. To enable the API commands, you must set the "user#1 (web+API)" username and password to a non-empty value in the embedded user interface ("SETTINGS->USERS AND PASSWORDS" menu).

HTTP examples:

In these examples, relaydroid is located at 192.168.2.201 (port 80) and the API password is *userpass*

1) get OC and Dx states

example request:

```
http://192.168.2.201/api.cgi?p=userpass
```

example answer:

```
100100 (OC1: ON, OC2-3: OFF, D1: ON, D2-3: OFF)
```

2) 'switch ON' 'OC2 port' 'for 10 seconds'

(v=1) (sw=2) (t0=10)

example request:

```
http://192.168.2.201/api.cgi?p=userpass&sw=2&v=1&t0=10
```

example answer:

```
010000 (OC1: OFF, OC2: ON, OC3: OFF, D1-3 OFF)
```

TCP examples:

In these examples, relaydroid is located at 192.168.2.201 (port 80) and the API password is *userpass*.

Open a TCP connection to 192.168.2.201 (port 80) and send a plain text line command (closed with a \n character).

command examples:

```
r1 3000 userpass\n
```

- switch on OC1 for 3 seconds

```
r1 - userpass\n
```

- ask for current state of outputs

```
r1 3000- userpass\n
```

- switch on OC1 for 3 seconds and ask for current state of outputs

example answer:

```
OK
```